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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/863,512 | 05/24/2001 | Fusao Shimizu | 109590 | 9885 |

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OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER

ROSENBERGER, RICHARD A

ART UNIT PAPER NUMBER

2877

DATE MAILED: 09/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/863,512

Applicant(s)

SHIMIZU ET AL.

Examiner

Richard A Rosenberger

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1,2,4,5,10,12,14,18 and 19 is/are rejected.
- 7) ☐ Claim(s) 3,6-9,11,13,15-17 and 20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 0703.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 4, 10, 14, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schober (US 6,567,169) in view of Endo et al (US 6,432,849).

Schober shows a device for measuring the shape of a carrier (a wafer). There is a stage (6) which supports the carrier by three pins (11, 12, 13). The Schober reference does not state that the pins are "kinematic coupling pins". Endo shows a stage for supporting a carrier of the same sort (a wafer), with what are identified as kinematic coupling pins (see, for example, column 7, line 49), and explicitly teaches such a holding means is useful for measuring instruments (column 14, lines 15-23). It would have been obvious to use such a support means in a measuring means such as taught by Schober because, as taught by Endo et al, it would be useful to do so.

The stage of Schober has a surface parallel to the carrier being held [instant claims 2, 19], and has a shifting section to shift the measuring section of the instrument relative to the carrier (column 2, lines 34-41) [instant claim 4].

As to instant claims 10 and 12, the Schober reference teaches that the wafer be moved relative to the measuring instrument. Any known movement

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arrangement, including one in which the wafer is moved rotationally, in which the wafer can be moved to the desired position, would have been obvious. Such a rotational movement of the stage (6) would change the orientation of the pins (11, 12, 13) while maintaining their relative arrangement. With such a known rotational stage, it would have been obvious to keep track of the rotational position of the stage and wafer to ensure that the proper desired points are being measured [instant claim 14].

As to instant claim 18, using a lens with a long enough working distance to make the placement of the wafer (3) into and out of the device easily without interference with the lens would have been obvious.

3. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schober (US 6,567,169) in view of Endo et al (US 6,432,849) as applied to claim 1 above, and further in view of Huynh (US 5,822,213).

Determining the center of a wafer by measuring points of the edge and using an equation to find the center in a known technique, and shown by Huynh, and would have been obvious whenever the center of a wafer is desired to be found.

4. Although the art shows having a surface parallel to the wafer, it does not appear to teach measuring the surface and using it as a reference; thus claims 3 and 20 contain allowable subject matter.

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The art does not appear to teach vibrating the kinematic coupling pins, and the claimed control of the vibration, nor does it teach or suggest ejecting air for their tips and the claimed control of the ejection of air. Thus claims 6-9 contain allowable subject matter.

The art does not appear to teach or suggest the change of the loading direction of the plate to change the orientation of the pins nor the selective projection of a plurality of pins from the stage. Thus claims 11 and 13 contain allowable subject matter, as does claim 15 based upon its dependency from claim 11.

The art does not appear to teach or suggest the calculations as set forth in claims 16 and 17; thus these claims contain allowable subject matter.

These claims, claims 3, 6-9, 11, 13, 15-17 and 20, are objected to but would be allowable if rewritten in independent form including all of the limitations of their respective parent claims.

5. Papers related to this application may be submitted to Group 2800 by facsimile transmission. The faxing of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (15 November 1989). The fax number is (703) 308-7722.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to R. A. Rosenberger whose telephone number is (703) 308-4804.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956.

R. A. Rosenberger
4 September 2003



Richard A. Rosenberger
Primary Examiner